

Claims (for U.S.)

1. An image correction processing method for correcting a pixel value of each pixel constituting image data obtained from an original image affected by the peripheral light-off, the method comprising the computer-implemented steps of:
 - (1) converting a distance between each pixel of a group of pixels which have an equal amount of peripheral light amount reduction and which are located on a common contour line of an oval about a predetermined reference pixel located at the center thereof and said predetermined reference pixel into a radius of a true circle having a diameter corresponding to the major axis of said oval;
 - (2) for each pixel, obtaining an angle value thereof in proportion to said radius obtained at said converting step and then obtaining a \cos^4 value of said angle value; and
 - (3) multiplying an inverse of said \cos^4 value obtained for each pixel by a pixel value of this pixel, thereby to obtain a corrected pixel value for said pixel.
- 20 2. The method according to claim 1, wherein said oval has a predetermined inclination relative to the original image.
- 25 3. The method according to claim 1, wherein a proportional coefficient used in the calculation of the angle value in proportion to the radius is determined according to each particular condition of the peripheral light amount reduction present in the original image.
- 30 4. The method according to claim 1, wherein a proportional coefficient used in the calculation of the angle value in proportion to the radius is determined according to each type of the camera used for obtaining the

original image.

5. An image correction processing apparatus for correcting a pixel value of each pixel constituting image data obtained from an original image affected by the peripheral light-off, the apparatus method comprising:

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(1) a pixel coordinate transforming unit for converting a distance between each pixel of a group of pixels which have an equal amount of peripheral light amount reduction and which are located on a common contour line of an oval about a predetermined reference pixel located at the center thereof and said predetermined reference pixel into a radius of a true circle having a diameter corresponding to the major axis of said oval;

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(2) a \cos^4 calculating unit for obtaining, for each pixel, an angle value thereof in proportion to said radius obtained by said conversion and then obtaining a \cos^4 value of said angle value; and

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(3) a correction calculating unit for multiplying an inverse of said \cos^4 value obtained for each pixel by a pixel value of this pixel, thereby to obtain a corrected pixel value for said pixel.

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6. The apparatus according to claim 5, further comprising a coefficient look-up table storing therein a plurality of proportional coefficients for use in the calculation of the angle value in proportion to the radius to be readable for a plurality of types of photographic cameras, respectively.

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7. A computer-readable medium having stored therein computer-executable instructions which when executed performs an image processing method, the method comprising:

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(1) converting a distance between each pixel of a group of pixels which have an equal amount of peripheral light amount reduction and which are located on a common contour line of an oval about a

predetermined reference pixel located at the center thereof and said predetermined reference pixel into a radius of a true circle having a diameter corresponding to the major axis of said oval;

5 (2) for each pixel, obtaining an angle value thereof in proportion to said radius obtained at said converting step and then obtaining a \cos^4 value of said angle value; and

(3) multiplying an inverse of said \cos^4 value obtained for each pixel by a pixel value of this pixel, thereby to obtain a corrected pixel value for said pixel.